Algebra Name_____

Two and Three Laws

Date_____ Period____

Simplify. Your answer should contain only positive exponents.

1) $x^2 \cdot x^{-1}y^{-1} \cdot \left(-2yx^0\right)^4$

2) $2x^0y^4 \cdot \left(2x^{-3}y^3\right)^{-1}$

3) $\dfrac{2a^2b^{-3} \cdot 3a^{-3}b^{-2}}{b^2}$

4) $\dfrac{3x^2}{4x^4y^3 \cdot 3x^{-4}y^{-1}}$

5) $-\dfrac{x^3}{\left(-x^2y^{-2}\right)^{-3}}$

6) $\left(\dfrac{\left(2x^{-4}\right)^2}{y}\right)^2$

7) $\dfrac{2x^{6}y^{3}}{\left(-x^{-5}\cdot -x^{0}y^{6}\right)^{4}}$

8) $-\dfrac{v^{2}\cdot 2u^{-2}v^{-5}}{\left(-u^{3}v^{5}\right)^{3}}$

9) $\dfrac{yx^{-5}\cdot -y^{3}}{\left(xy^{2}\right)^{4}}$

10) $-\dfrac{x^{-3}y^{5}}{\left(-2y^{6}\right)^{6}\cdot -yx^{2}}$

11) $\dfrac{\left(2h^{0}j^{0}k^{-5}\right)^{-2}}{\left(kh^{2}j^{6}\cdot h^{0}j^{-5}k^{2}\right)^{4}}$

12) $\left(\dfrac{-2zx^{3}y^{2}\cdot x^{-2}y^{3}z^{0}}{-x^{3}y^{4}z^{0}}\right)^{-2}$

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Simplify. Your answer should contain only positive exponents.

1) $x^2 \cdot x^{-1}y^{-1} \cdot \left(-2yx^0\right)^4$

$16xy^3$

2) $2x^0y^4 \cdot \left(2x^{-3}y^3\right)^{-1}$

x^3y

3) $\dfrac{2a^2b^{-3} \cdot 3a^{-3}b^{-2}}{b^2}$

$\dfrac{6}{b^7a}$

4) $\dfrac{3x^2}{4x^4y^3 \cdot 3x^{-4}y^{-1}}$

$\dfrac{x^2}{4y^2}$

5) $-\dfrac{x^3}{\left(-x^2y^{-2}\right)^{-3}}$

$\dfrac{x^9}{y^6}$

6) $\left(\dfrac{\left(2x^{-4}\right)^2}{y}\right)^2$

$\dfrac{16}{x^{16}y^2}$

7) $\dfrac{2x^6y^3}{\left(-x^{-5}\cdot -x^0y^6\right)^4}$

$\dfrac{2x^{26}}{y^{21}}$

8) $-\dfrac{v^2\cdot 2u^{-2}v^{-5}}{\left(-u^3v^5\right)^3}$

$\dfrac{2}{u^{11}v^{18}}$

9) $\dfrac{yx^{-5}\cdot -y^3}{\left(xy^2\right)^4}$

$-\dfrac{1}{x^9y^4}$

10) $-\dfrac{x^{-3}y^5}{\left(-2y^6\right)^6\cdot -yx^2}$

$\dfrac{1}{64x^5y^{32}}$

11) $\dfrac{\left(2h^0j^0k^{-5}\right)^{-2}}{\left(kh^2j^6\cdot h^0j^{-5}k^2\right)^4}$

$\dfrac{1}{4k^2h^8j^4}$

12) $\left(\dfrac{-2zx^3y^2\cdot x^{-2}y^3z^0}{-x^3y^4z^0}\right)^{-2}$

$\dfrac{x^4}{4y^2z^2}$